NOTE

ONLY THE FOLLOWING PAGES OF THIS PUBLICATION

HAVE BEEN FILMED

Cover 1, p. 3,

42-44, 46, 48,

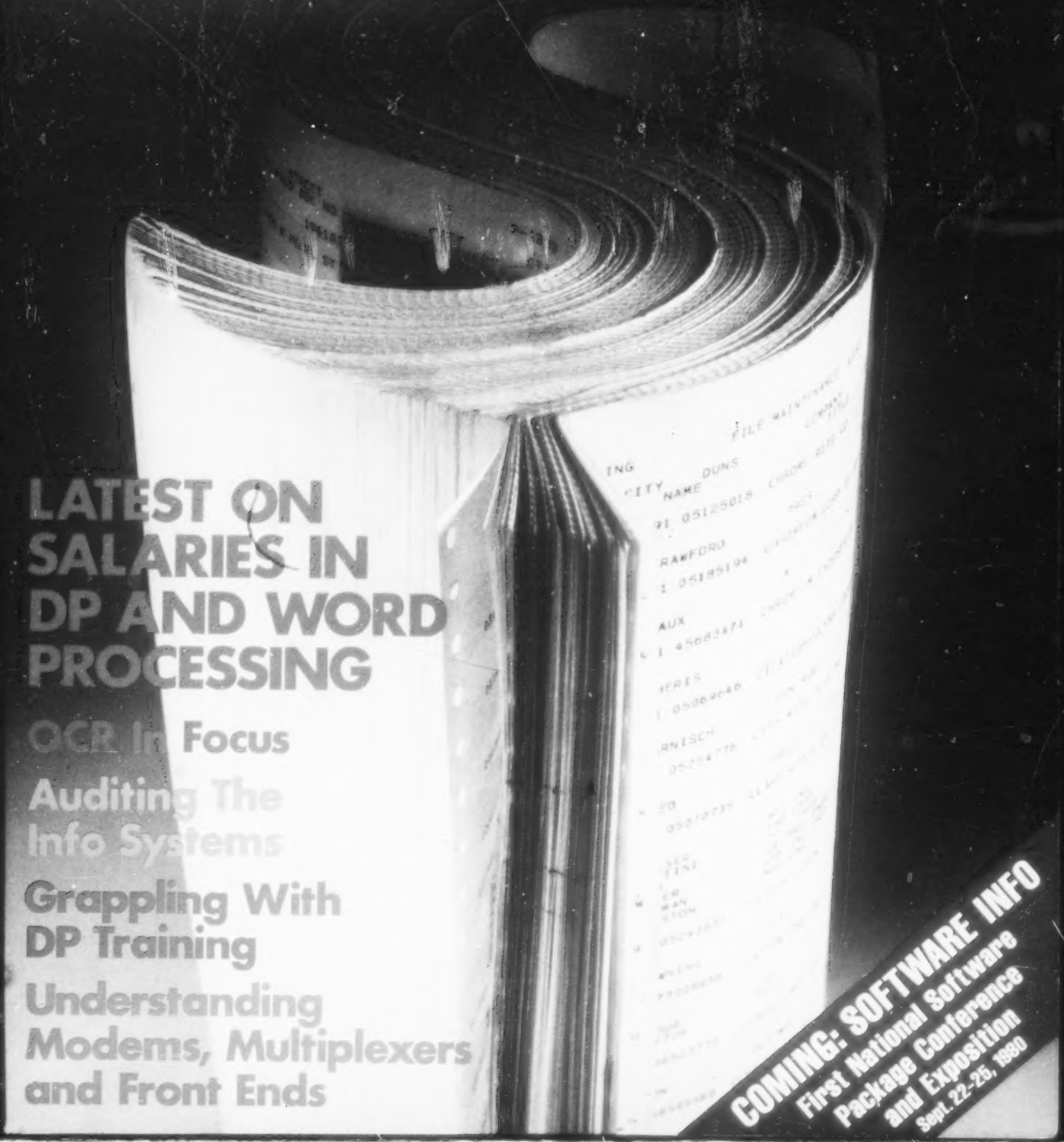
50, 54, 56-57.

A Hitchcock Publication/June 1980

Infosystems

America's Leading Information Systems Magazine for Management

7/2/80 C 4510-2 D



LATEST ON SALARIES IN DP AND WORD PROCESSING

OCR In Focus

Auditing The Info Systems

Grappling With DP Training

Understanding Modems, Multiplexers and Front Ends

COMING: SOFTWARE INFO
First National Software Package Conference and Exposition
Sept. 22-25, 1980

Infosystems

America's Leading Information Systems Magazine for Management

June Volume 27 Number 6

features

12 **Publisher's memo: Management by negotiation**

38 **Editorial: Communication—Where there's a wish, there's a way**

42 **1980 DP salaries report: Wage increases held to seven percent average nationwide**
Lead systems analysts' salaries up 13 percent and systems programmer trainees' jump 19.5 percent.

56 **WP salary and equipment survey: Users say what they pay, what they use**
First-time survey tells what users pay, systems they have and who controls WP function.

60 **Modems, multiplexers and concentrators: Diagnostics and control are key**
The use of microprocessors provides the intelligence needed by network devices to scrutinize what is happening.

66 **EDP auditor: Obsoleting the old role**
Regulations, laws, on-line DP systems create new responsibilities for internal auditors.

72 **DP training: Grappling with winds of change**
Technological changes are buffeting DP training programs.

76 **Optical character recognition: Rediscovering an old technology**
There are growing opportunities for use of OCR.

80 **Datacomm directions: Mini vendors take X.25 route to networking**
Users can mix and match systems with some assurance that they can communicate with each other.

82 **Perspective: Get thee to a delicatessen**
The service bureau industry has grown because it serves the end user.

84 **Users report: RJE provides computer power at construction sites**
Large engineering/design/construction firm gains on-site computer power through RJE terminals.

Dealer gains competitive edge with business system
A small business system helps an office supplier streamline its diverse operations.

Hotel room service includes word processing
An extra typing service is offered business clientele at a Michigan hotel.

departments

100 **ad index**
98 **bookcase**
99 **classified**
38 **editorial**
6 **executive editor's notebook**
20 **inside info**
100 **literature info**
90 **new product info**
98 **newsmakers**
97 **plan ahead**
12 **publisher's memo**
6 **reader feedback**
88 **software info review**
16 **washington info**

Cover
Design and photography by Bud Marcom.

Coming in July
The editors of INFOSYSTEMS present the semiannual review of software packages and major enhancements released during the past six months. More than 30 categories of software packages are included in this popular editorial service. Also, a critical look at data communications network management.

Page 42

Page 76

Page 84

Page 84

INFOSYSTEMS (USPS 771-080) is published monthly.

Copyright 1980 Hitchcock Publishing Company, a subsidiary of American Broadcasting Companies, Inc. All rights reserved. No part of this publication may be reproduced or transmitted by any means without permission from the publisher.

One year subscription rates: $35.00 in the USA, Canada and Mexico. Single copy rate: $3.00 USA, Canada, Mexico. For subscriptions outside the USA, Canada and Mexico, contact the Circulation Department. Printed in the USA. Controlled circulation postage paid at Wabash, IN. Postmaster: Return Form 3579 to INFOSYSTEMS, Hitchcock Publishing Company, Hitchcock Building, Wheaton, IL 60187.

ABP BPA

Wage Increases Held To Seven Percent Average Nationwide

Biggest gains are for systems analysts and programmers

by Arnold E. Keller
Editorial Director

Salary increases for data processing positions averaged just seven percent nationwide according to results of INFOSYSTEMS' 22nd annual DP wage survey. This is down from the 10 percent net gain registered in the 1979 survey, an indication that the Carter "voluntary" guidelines had their impact on DP salaries. The survey reflects wages in effect as of March 1, 1980 for over 15,000 DP workers. Some 1,200 organizations participated in the nationwide study which covered 35 job categories.

Percentage-wise, the larger increases were reported for systems analysts (SA) and systems programmers (SP). The manager of SA registered a gain of 11 percent; the lead SA, 13 percent; the senior, 8.9 percent and the junior, 10.6 percent. The biggest jumps in systems programming were for the lead SP (19.5 percent) and the trainee (22.7 percent). The latter average annual salary was, according to the survey, $15,756 as compared to an average of $12,844 for the previous year.

The jump in starting salaries for systems programming trainees is indicative of the shortage, real or imagined, of programming talent that faces the industry. INFOSYSTEMS receives many calls concerning the problems of hiring graduates with Computer Science degrees, who, by any stretch of the imagination on the part of their professors, are still trainees. Yet their starting salary requirements range in the $18,000 ballpark. One solution to this "inflation of the mind" is to train in-house personnel to move into programming, and belatedly, this movement is growing.

The national average annual salary for the top info job was $39,832, up 10.7 percent over 1979. The DP manager's annual average was $28,548, up 9.1 percent. The data base manager's salary averaged slightly higher, $28,756. Some 80 organizations reported having a data base manager with the majority indicating the job reported to a higher echelon than the DP manager.

The top 10 cities regarding annual average salary for DP managers are Washington, DC, $35,984; Springfield, IL, $33,280; Seattle/Tacoma, $32,604; Dallas/Ft. Worth,

Percentage of 1980 Budget For:
(By Equipment Rental Range)

Rental Range Per Month	Services and Software	Hardware	Personnel	Supplies	Other
Under $3,000	17.5	24.2	46.8	8.5	3.0
$3,000 to $4,499	15.0	26.2	47.4	8.5	2.9
$4,500 to $5,999	11.7	30.0	46.9	9.1	2.3
$6,000 to $8,999	10.1	31.5	45.3	9.2	3.9
$9,000 to $11,999	9.8	33.9	44.4	8.4	3.5
$12,000 to $14,999	10.0	34.1	41.6	9.1	5.2
$15,000 to $17,999	10.5	30.3	46.1	9.2	3.9
$18,000 to $24,999	10.4	36.4	41.4	8.0	3.8
$25,000 to $49,999	9.6	34.6	44.5	7.3	4.0
$50,000 to $74,999	7.6	34.9	47.4	6.3	3.8
$75,000 to $99,999	8.5	30.0	48.5	7.5	5.5
$100,000 to $149,999	13.9	30.3	47.0	5.6	3.2
$150,000 or more	9.9	32.0	43.3	8.8	6.0
Not Available	23.3	22.0	46.9	6.0	1.8
Total	12.4	30.2	45.5	8.4	3.5

Total Operating Budget vs. DP Budget
(By Industry)

Rental Range Per Month	Average Total Operating Budget (In Millions)	Average DP Budget (In Millions)	Average DP Percent
Under $3,000	8.604	.102	1.2
$3,000 to $4,499	14.975	.153	1.0
$4,500 to $5,999	20.965	.160	0.8
$6,000 to $8,999	24.975	.275	1.1
$9,000 to $11,999	32.942	.370	1.1
$12,000 to $14,999	37.603	.504	1.3
$15,000 to $17,999	42.433	.620	1.5
$18,000 to $24,999	51.545	.796	1.5
$25,000 to $49,999	100.286	1.272	1.3
$50,000 to $74,999	139.815	1.288	0.9
$75,000 to $99,999	191.500	4.913	2.6
$100,000 to $149,999	358.221	5.406	1.5
$150,000 or more	602.683	15.534	2.6

Total Operating Budget vs. DP Budget
(By Industry)

Industry	Average Total Operating Budget (in millions)	Average DP Budget (in millions)	Average DP Percent
Advertising, Printing, Publishing	22.108	.351	1.6
Banking, Financial	34.518	1.442	4.2
Educational	38.371	2.436	6.3
Engineering/Construction	83.917	1.468	1.7
Hospital Health Care	31.091	.552	1.8
Insurance	4.888	.448	9.2
Public Utilities	*	*	*
Retail Sales and Distribution	28.344	.299	1.1
Service—DP	7.824	.424	5.4
Services other than DP	16.802	.423	2.5
Transportation	44.521	.540	1.2
Wholesale Sales and Distribution	84.560	.861	1.0
Other	80.935	.645	0.8
Manufacturing Electrical	22.089	.428	1.9
Food, Tobacco, Drugs	43.445	.323	0.8
Machinery, Metal Products, Heavy	39.269	.644	1.6
Machinery, Metal Products, Light	39.192	.268	0.7
All other Manufacturing	61.455	.440	0.7

*Insufficient information
The DP budgets by industry vary in the above charts because the respondents to the "sales" question are not necessarily the same as those answering the "corporate budget" question.

$32,240; Denver, $31,096; Miami, $31,044; New York, $30,940; Chicago, $30,368; Dayton, $30,264; and Charlotte/Raleigh, $29,848.

The DP manager continues to receive top management recognition from a reporting standpoint. Over 50 percent of the respondents indicated that DP reported to the top corporate officers while 31 percent reported to the financial officer. While distributed processing continues to be one of the industry's hot buttons, there is no indication that organizations are racing to embrace the concept. Of the 1,155 respondents to the question, "Are you using or planning to use distributed computing?," only 212 indicated present use while 230 said they planned to use within the year. But the majority, 713, answered "no" to the question. That number is about identical to the 1979 response.

The survey, as in previous years, confirms that by a large majority the data communications responsibility rests with the data processing man-

... continued

Number of Employees in DP vs. Company
(By Equipment Rental)

Rental Range Per Month	Average Number in DP	Average Number in Company
Under $3,000	5	204
$3,000 to $4,499	7	442
$4,500 to $5,999	8	500
$6,000 to $8,999	9	725
$9,000 to $11,999	14	861
$12,000 to $14,999	15	905
$15,000 to $17,999	16	1,015
$18,000 to $24,999	21	2,009
$25,000 to $49,999	30	2,178
$50,000 to $74,999	81	3,491
$75,000 to $99,999	83	4,216
$100,000 to $149,999	107	8,879
$150,000 or more	207	10,715
Not Available	21	1,895
Total	20	1,329

Data Processing Reports To

President, Owner, General Manager	31.6%
Vice President	24.2%
Financial Officer Controller	31.1%
Director of Information Systems (MIS, etc.)	6.4%
Data Base Administrator	0.1%
Other	6.6%

Data Base Management Reports To

President, Owner, General Manager	21.6%
Vice President	15.2%
Financial Officer Controller	18.7%
Director of Information Systems (MIS, etc.)	15.1%
Data Processing Manager	25.3%
Other	4.1%

Person Responsible for Data Communications

Data Processing Manager	78.1%
Communications Manager	5.8%
Other	16.0%

Job Descriptions Available
Detailed job descriptions for the 35 DP positions surveyed are available free of charge. Enter Circle number 14 and complete the Reader Information Card located at the back of this issue.

Additional Reprints
Additional copies of the DP Salary Survey in this issue are available for $5 each. In quantities of 10 or more, the cost is $4.50. Send your check or company purchase order to the address below.

Additional Salary Breakouts
Additional Salary Survey breakouts for your geographic area or industry are available at $10 each. These customized reports show average salaries, average high and low established salary ranges and actual high and low salaries for companies in the equipment rental range you select in your industry or metropolitan area. Use only the geographic area shown in the charts on the following pages or the industries shown in the chart at left.

Send your check or company purchase order for the reprints or breakouts to Salary Reprint Dept., INFOSYSTEMS, Hitchcock Publishing Co., Hitchcock Bldg., Wheaton, IL 60187.

1980 DP Salary Report

...continued

ager. Of the 842 firms reporting the use of datacomm, 658—or 78.1 percent—said the operation reported to the DP manager. Only 49 of the respondents indicated the presence of a data communications manager. The remaining 135 respondents indicated a variety of other titles.

For the first time, this year's survey directed attention to data security, asking the question, "Does your organization have someone directly responsible for data security?" Of the 1,170 responding, only 27 indicated the job as a full time responsibility, with 122 stating, "plan to do so." Reporting "yes, as part of other responsibilities," were 512, while 509 gave a "no" to the question.

Regarding the inclusion of user systems in the DP budget, 315 said they did so as opposed to 731 who did not. Of those answering in the affirmative, the average percent of the DP budget represented by the user systems was 27.3 percent. ..continued

Total 1979 Sales vs. DP Budget
(By Industry)

Industry	Average Total Operating Budget (in millions)	Average DP Budget (in millions)	Average DP Percent
Advertising, Printing, Publishing	66.882	.523	0.8
Banking, Financial	60.773	.522	0.9
Educational	23.333	1.083	4.6
Engineering/Construction	134.971	.213	0.2
Hospital Health Care	26.903	.509	1.9
Insurance	51.409	.640	1.2
Public Utilities	.744	.039	5.2
Retail Sales and Distribution	67.598	.342	0.5
Service—DP	7.985	.296	3.7
Services other than DP	4.935	.286	5.8
Transportation	24.404	.122	0.5
Wholesale Sales and Distribution	119.659	.388	0.3
Other	162.273	.461	0.3
Manufacturing Electrical	27.060	.256	0.9
Food, Tobacco, Drugs	72.750	.294	0.4
Machinery, Metal Products, Heavy	39.733	.479	1.2
Machinery, Metal Products, Light	50.174	.227	0.5
All other Manufacturing	22.148	.214	1.0

The DP budgets by industry vary in the above charts because the respondents to the "sales" question are not necessarily the same as those answering the "corporate budget" question.

Weekly Salaries for All Infosystems Jobs: Nationwide and by Size of Installation

Job Description	and Code	NATIONAL STATISTICS: Number Reported	Lowest Reported Actual Salary	25th Percentile* Actual Salary	National Average Actual Salary	Median* Actual Salary	Mode* Actual Salary	75th Percentile* Actual Salary	Highest Reported Actual Salary	Established Salary Range—Average High	Established Salary Range—Average Low	AVERAGE SALARY—BY EQUIPMENT RENTAL RANGE: Under $3,000/Mo.	$3,000-4,499/Mo.	$4,500-5,999/Mo.	$6,000-8,999/Mo.	$9,000-11,999/Mo.	$12,000-14,999/Mo.	$15,000-17,999/Mo.	$18,000-24,999/Mo.	$25,000-49,999/Mo.	$50,000-74,999/Mo.	$75,000-99,999/Mo.	$100,000-149,999/Mo.	$150,000 and over
																								—(No. Firms)
MANAGEMENT																								
Top Official	(01)	389	350	593	766	738	769	882	1923	888	621	657	716	730	784	728	764	757	773	863	858	**	981	1006
Data Base Systems	(02)	83	230	461	553	530	500	610	1057	654	466	379	491	504	504	527	**	**	**	565	531	**	638	752
Data Processing	(03)	979	207	451	549	538	538	634	1230	659	466	447	495	512	508	521	553	617	596	657	695	582	730	731
Ass't D P	(04)	141	181	442	529	538	576	621	865	634	459	**	370	**	392	434	**	578	**	602	631	**	611	618
Project/Team Leader																								
Leader	(05)	405	288	490	526	522	504	576	801	620	430	**	**	**	468	**	445	467	488	521	545	**	555	555
Systems Analysis and Programming																								
Manager/Supervisor	(06)	344	192	452	530	531	576	590	1000	633	447	383	**	445	492	447	486	510	507	545	542	582	599	563
Lead	(07)	449	196	403	450	457	457	503	769	513	368	**	411	383	405	424	402	458	441	458	483	**	482	462
Senior	(08)	870	192	365	419	403	399	480	865	491	350	**	381	392	397	391	372	392	388	407	427	417	439	426
Junior	(09)	675	175	311	352	346	347	403	622	412	288	435	319	**	309	314	308	329	326	329	363	363	375	341
Systems Analysis																								
Manager/Supervisor	(10)	55	417	493	540	528	513	596	692	659	457	**	**	451	**	500	506	525	517	563	552	**	518	583
Lead	(11)	96	338	441	495	480	500	553	750	588	420	**	445	**	453	**	**	496	512	524	483	**	556	540
Senior	(12)	333	211	394	451	442	480	507	634	527	366	**	**	367	414	436	436	425	435	456	442	442	430	527
Junior	(13)	116	153	307	376	376	435	435	538	471	320	**	**	297	338	329	357	347	352	345	385	410	419	410
Systems Programming																								
Manager/Supervisor	(20)	85	290	462	545	536	576	620	880	654	467	**	**	**	**	449	439	449	506	531	553	618	581	631
Lead	(21)	128	192	431	490	480	480	542	694	564	395	346	**	**	391	401	460	474	**	498	470	**	496	559
Senior	(22)	317	230	375	437	434	461	502	576	509	369	308	360	**	388	338	366	425	400	413	508	490	446	469
Junior	(23)	199	173	290	333	311	290	381	557	432	301	**	**	255	334	288	382	298	345	309	332	438	338	345
Trainee	(24)	60	160	258	303	280	280	365	442	375	264	**	**	**	261	278	247	217	309	285	331	380	**	360
Applications Programming																								
Manager/Supervisor	(25)	103	221	440	535	525	442	660	865	608	426	392	396	441	421	437	464	**	**	476	533	**	622	682
Lead	(26)	196	196	356	422	408	408	480	602	478	341	**	**	322	339	380	421	**	411	370	427	394	453	529
Senior	(27)	732	173	319	371	365	346	421	680	435	304	384	363	382	329	336	340	412	366	350	362	361	414	437
Junior	(28)	787	170	267	308	301	269	350	553	363	257	298	272	293	269	270	281	298	303	302	301	310	369	363
Trainee	(29)	367	120	227	252	250	230	280	373	314	226	**	218	230	226	243	245	250	233	255	248	271	272	266
Data Communications																								
Manager	(30)	38	255	421	503	486	500	553	807	568	414	**	**	**	**	292	371	**	**	461	552	545	**	544
Operator	(31)	121	144	191	287	307	307	320	692	375	259	**	**	153	**	167	**	**	**	224	357	267	308	394
Computer Operations																								
Manager/Supervisor	(32)	523	160	321	391	379	336	453	800	486	338	289	300	313	351	343	364	413	382	428	437	452	539	436
Lead Operator	(33)	607	140	249	296	288	230	340	615	344	249	238	248	243	268	266	286	290	300	310	334	324	363	343
Senior Operator	(34)	1165	125	224	264	254	230	300	615	309	219	226	236	239	243	238	232	255	254	266	270	282	329	288
Junior Operator	(35)	1050	101	189	222	213	230	248	586	272	191	199	200	197	204	197	195	209	214	219	233	236	228	252
I/O Control Manager	(36)	227	100	208	271	262	346	320	596	350	245	194	224	251	224	238	249	197	255	295	290	375	355	369
Tape Librarian	(40)	187	108	188	222	220	230	251	384	265	192	**	**	**	218	**	211	210	208	214	213	238	243	220
Key Entry																								
Supervisor	(41)	323	140	219	264	253	230	300	565	312	223	206	235	233	242	240	233	305	263	271	324	286	301	308
Lead Operator	(42)	511	110	188	217	212	230	240	378	266	188	199	202	203	194	225	225	220	211	231	258	220	236	233
Senior Operator	(43)	1736	115	173	199	192	173	217	380	237	175	193	195	190	191	200	195	224	190	202	216	203	232	194
Junior Operator	(44)	1073	100	159	178	176	184	190	320	210	157	162	167	166	177	177	169	195	165	184	189	166	181	178

*Median — A figure having an equal number above and below
*Mode — The salary reported most often
*25th Percentile — That point at which 25% of all other salaries are lower and 75% are higher
*75th Percentile — That point at which 75% of all other salaries are lower and 25% are higher
**Indicates insufficient information available

BEST AVAILABLE COPY

AVERAGE REPORTED WEEKLY SALARIES FOR ALL INFOSYSTEMS JOBS BY INDUSTRY

Job Description	Job Code	Advertising, Printing & Publishing	Banks, Financial	Construction-Engineering	Data Proc. Service Centers	Other Services (non-DP)	Educational	Gov't. Agencies	Hospital, Health Care	Insurance	Mfg.—Electrical	Mfg.—Food, Tobacco, Drugs	Mfg.—Heavy Products	Mfg.—Light Products	Mfg.—Misc.	Public Utilities	Retail Sales & Distrib.	Transportation	Wholesale Sales & Distrib.	All Other	NAT. AVER. COMPARISON 1979	1980	% Increase (Decrease)
		(34)	(67)	(34)	(63)	(85)	(97)	(106)	(53)	(45)	(32)	(31)	(67)	(77)	(89)	(13)	(70)	(35)	(108)	(20)			
MANAGEMENT																							
Top Official	(01)	670	842	751	823	741	698	723	681	717	720	809	878	802	822	865	749	780	799	798	692	766	10.7
Data Base Systems	(02)	494	484	**	472	505	520	622	**	782	554	575	568	**	550	666	467	515	447	573	513	553	7.8
Data Processing	(03)	553	591	568	564	525	499	574	516	585	533	567	572	548	554	610	536	559	514	584	503	549	9.1
Ass't D P	(04)	501	557	469	494	521	471	588	444	570	486	**	511	**	530	704	**	468	**	490	491	529	7.7
Project/Team Leader																							
Leader	(05)	487	423	**	501	533	477	575	496	557	478	610	548	500	475	597	497	535	430	524	474	526	11.0
Systems Analysis and Programming																							
Manager/Supervisor	(06)	540	492	571	559	394	491	565	502	551	477	563	549	483	534	605	496	475	525	553	505	530	5.0
Lead	(07)	399	417	**	493	370	417	504	**	464	**	481	439	412	460	527	460	475	429	392	440	450	2.3
Senior	(08)	382	372	458	416	352	393	452	372	419	374	387	398	401	407	444	395	409	381	387	406	419	3.2
Junior	(09)	340	299	324	390	298	321	364	341	334	337	294	336	306	332	425	338	364	298	332	319	352	10.3
Systems Analysis																							
Manager/Supervisor	(10)	**	522	**	**	**	503	637	**	531	501	544	543	540	533	603	561	**	**	**	486	540	11.1
Lead	(11)	416	429	**	505	512	**	484	488	530	464	**	**	**	486	474	488	521	**	461	438	495	13.0
Senior	(12)	387	425	445	440	505	447	449	387	460	414	485	487	418	459	466	448	499	499	448	414	451	8.9
Junior	(13)	307	381	**	313	397	394	407	350	376	373	431	406	313	363	394	294	**	409	419	340	376	10.6
Systems Programming																							
Manager/Supervisor	(20)	**	594	**	587	**	497	547	566	552	487	**	515	507	536	546	602	501	509	619	501	545	8.8
Lead	(21)	519	502	**	**	**	452	501	**	518	**	513	492	398	457	486	488	**	440	459	410	490	19.5
Senior	(22)	387	436	398	396	472	385	487	432	444	394	425	411	374	417	437	429	376	387	425	391	437	11.8
Junior	(23)	296	357	357	331	349	296	320	348	408	388	325	393	326	328	342	277	247	324	369	303	333	9.9
Trainee	(24)	**	342	**	293	262	226	228	**	349	241	264	381	256	260	**	**	205	268	**	247	303	22.7
Applications Programming																							
Manager/Supervisor	(25)	499	524	**	507	**	467	604	447	680	499	**	524	434	**	576	494	565	548	473	494	535	8.3
Lead	(26)	**	444	**	423	442	370	416	414	543	386	477	447	429	407	444	422	**	375	425	411	422	2.7
Senior	(27)	331	335	376	395	379	325	398	337	386	359	451	405	383	358	396	314	398	356	358	371	371	0.0
Junior	(28)	285	287	331	292	317	278	305	305	349	293	303	345	301	305	377	275	305	294	322	303	308	1.7
Trainee	(29)	262	250	251	211	262	222	246	236	265	263	265	294	240	265	303	245	251	234	232	253	252	−0.4
Data Communications																							
Manager	(30)	534	474	**	503	**	441	574	**	**	**	612	**	**	429	582	506	490	**	**	496	503	1.4
Operator	(31)	**	285	**	276	150	308	316	324	447	**	172	**	236	224	**	211	**	176	364	313	287	−8.3
Computer Operations																							
Manager/Supervisor	(32)	411	376	352	390	333	371	420	352	453	395	464	392	393	375	530	350	373	355	414	374	391	4.5
Lead Operator	(33)	266	268	275	284	240	291	349	267	322	273	323	317	288	271	388	277	279	266	297	282	296	5.0
Senior Operator	(34)	240	230	245	268	220	237	298	252	264	260	323	279	258	233	347	245	274	243	254	257	264	2.7
Junior Operator	(35)	200	196	219	214	196	198	257	205	247	231	214	227	221	203	273	196	203	200	247	219	222	1.4
I/O Control Manager	(36)	263	265	294	250	216	255	281	223	366	313	243	298	273	253	464	253	278	236	273	256	271	5.9
Tape Librarian	(40)	170	197	**	220	228	216	241	245	203	218	199	277	183	206	293	208	285	215	195	215	222	3.3
Key Entry																							
Supervisor	(41)	253	237	252	264	261	254	253	260	270	309	315	296	241	256	390	256	300	250	258	245	264	7.8
Lead Operator	(42)	223	192	217	226	210	208	228	202	205	231	237	235	223	204	288	233	244	200	217	216	217	0.5
Senior Operator	(43)	199	190	208	186	196	187	200	194	195	206	227	209	204	190	266	180	231	188	193	199	199	0.0
Junior Operator	(44)	175	171	186	158	183	186	181	175	168	189	179	193	186	174	244	172	172	170	175	170	178	4.7

(No. Firms)

Figures in parentheses indicate number of firms reporting salary data ** *Indicates insufficient information available*

Average Reported Weekly Salaries for All Infosystems by Industry

BEST AVAILABLE COPY

AVERAGE REPORTED WEEKLY SALARIES FOR ALL INFOSYSTEMS JOBS BY GEOGRAPHIC AREA

Region and Metropolitan Area

Job Description	Job Code	New England ME, VT, NH, MA, CT, RI (52)	Boston (31)	Hartford (12)	Mid Atlantic NY, PA, NJ (141)	Albany (7)	Buffalo/Syracuse (17)	Jersey City/Newark (19)	New York (44)	Philadelphia (29)	Pittsburgh (17)	Rochester (8)	So. Atlantic WV, MD, DE, VA, NC, SC, GA, FL, DC (159)	Atlanta (25)	Baltimore (26)	Charlotte/Raleigh (25)	Charleston Richmond/Roanoke (20)	Jacksonville/ Orlando/Tallahassee (18)	Miami (15)	Washington (30)	East North Central WI, MI, IL, IN, OH (284)	Chicago (97)	Cincinnati (14)	Cleveland (29)	Columbus (15)	Dayton (9)	Detroit (23)	Grand Rapids (13)	Indianapolis (21)	Milwaukee (32)
MANAGEMENT																														
Top Official	(01)	900	950	827	760	**	560	796	880	795	784	**	814	1008	787	688	765	723	677	958	772	853	649	763	**	641	783	854	684	737
Data Base Systems	(02)	576	596	519	662	**	**	562	860	**	**	519	612	**	**	**	**	463	**	714	538	530	**	**	481	**	**	**	**	510
Data Processing	(03)	541	556	519	548	502	514	561	595	531	545	519	569	522	525	574	559	420	597	692	549	584	452	527	566	**	537	470	510	523
Asst D P	(04)	**	**	-	495	**	**	**	545	**	599	365	568	410	495	490	**	511	447	625	512	519	454	445	479	**	**	**	509	499
Project/Team Leader	(05)	528	559	485	528	**	**	510	598	430	505	**	555	461	**	512	438	512	461	584	513	534	391	472	490	542	578	446	504	513
Systems Analysis and Programming																														
Manager/Supervisor	(06)	535	546	527	534	464	415	518	673	527	453	483	573	526	**	483	507	**	570	647	501	533	348	547	891	645	**	**	523	549
Lead	(07)	469	494	405	458	**	**	461	508	407	**	**	482	421	490	417	406	814	389	863	429	473	258	**	446	475	465	394	450	432
Senior	(08)	418	436	370	421	396	358	414	459	357	363	390	452	363	397	392	389	333	347	537	378	413	213	395	373	442	404	336	390	380
Junior	(09)	347	354	326	309	274	292	325	318	313	278	288	389	299	324	291	302	296	384	470	322	338	176	313	317	371	342	**	340	386
Systems Analysis																														
Manager/Supervisor	(10)	528	480	577	563	**	**	563	**	**	**	**	627	**	**	**	596	**	**	637	522	538	**	**	517	**	**	**	**	482
Lead	(11)	459	455	**	474	**	**	**	**	365	**	459	497	**	429	468	444	**	**	541	509	526	**	**	**	475	**	**	405	464
Senior	(12)	453	448	490	445	**	432	488	435	**	499	404	434	**	413	423	395	363	**	531	424	421	390	476	413	369	425	452	346	438
Junior	(13)	351	351	**	296	**	289	320	215	**	450	**	356	**	**	354	322	290	**	390	360	306	**	389	255	**	338	**	220	360
Systems Programming																														
Manager/Supervisor	(20)	562	560	576	553	538	462	577	695	**	576	490	543	456	554	**	**	**	**	618	501	541	**	**	522	**	**	**	**	476
Lead	(21)	466	471	**	464	**	**	500	511	410	403	403	504	442	**	500	461	417	**	**	456	464	**	530	**	471	**	480	496	417
Senior	(22)	378	366	394	442	465	**	476	475	349	391	**	489	378	399	425	399	244	**	539	389	384	413	407	381	323	350	**	358	403
Junior	(23)	303	308	293	371	269	**	373	394	322	**	**	321	279	317	317	333	**	**	323	327	388	**	334	322	297	288	**	313	332
Trainee	(24)	267	293	262	332	**	**	252	352	258	288	**	189	217	**	**	160	**	**	192	277	284	**	**	264	**	**	**	**	**
Applications Programming																														
Manager/Supervisor	(25)	452	559	346	464	**	413	**	471	495	**	**	569	**	387	442	460	**	**	672	526	540	**	450	503	**	640	531	**	**
Lead	(26)	399	427	**	379	**	302	362	418	609	382	**	417	**	384	338	389	**	**	472	420	412	436	355	394	547	468	**	347	348
Senior	(27)	363	353	385	371	**	300	463	450	357	313	270	356	348	284	308	324	362	333	383	370	370	368	338	315	464	**	351	312	340
Junior	(28)	288	294	289	281	245	250	290	298	272	298	**	369	310	253	299	266	275	271	312	304	308	285	281	286	347	412	241	274	289
Trainee	(29)	248	256	241	229	**	**	232	251	204	221	**	280	245	228	215	238	214	240	273	243	254	229	234	214	263	251	222	206	260
Data Communications																														
Manager	(30)	490	**	**	535	500	**	673	653	**	398	490	533	**	502	**	442	474	**	**	473	475	**	432	**	492	**	**	**	**
Operator	(31)	313	313	**	364	**	**	176	476	**	**	**	503	**	**	**	263	195	**	324	184	**	**	224	361	**	**	**	**	**
Computer Operations																														
Manager/Supervisor	(32)	405	440	409	368	342	334	324	452	377	344	395	374	348	382	349	349	371	332	450	409	430	342	361	415	539	392	406	420	401
Lead Operator	(33)	318	317	332	284	250	**	**	360	262	251	297	282	260	282	267	278	243	280	335	305	308	231	301	273	391	371	312	277	298
Senior Operator	(34)	274	302	253	246	**	268	256	298	221	227	306	252	243	229	251	235	211	266	309	275	258	227	261	243	340	297	261	232	243
Junior Operator	(35)	224	236	202	221	188	202	209	288	169	197	253	205	214	193	212	210	181	220	230	230	212	210	182	203	328	229	211	195	213
I/O Control Manager	(36)	314	331	384	273	**	298	273	302	277	202	266	276	220	263	271	295	331	191	344	282	276	299	280	249	292	**	307	314	313
Tape Librarian	(40)	249	239	284	191	173	134	186	208	226	189	**	230	207	201	185	237	196	215	248	225	219	230	251	218	166	266	230	239	201
Key Entry																														
Supervisor	(41)	317	357	261	228	192	**	251	232	247	239	**	254	262	257	225	237	220	310	295	265	267	244	274	269	254	278	253	232	256
Lead Operator	(42)	265	284	**	201	178	204	203	209	187	184	239	208	237	**	181	184	202	208	266	221	227	193	237	224	208	226	221	189	249
Senior Operator	(43)	242	256	254	182	166	185	185	182	177	181	204	194	219	205	173	174	165	184	260	199	202	159	209	193	194	216	199	178	202
Junior Operator	(44)	199	220	172	170	157	177	180	169	154	153	192	178	187	165	162	161	162	170	212	177	182	149	137	175	156	208	165	169	172

— (No. Firms)

Average Reported Weekly Salaries for All Infosystems Jobs by Geographic Area

Figures in parentheses indicate number of firms reporting salary data **Indicates insufficient information available*

BEST AVAILABLE COPY

AVERAGE REPORTED WEEKLY SALARIES FOR ALL INFOSYSTEMS JOBS BY GEOGRAPHIC AREA

Region and Metropolitan Area

Job Description	Job Code	Rockford	Springfield	Toledo	East South Central KY, TN, MS, AL	Louisville	Memphis	Nashville	West North Central ND, MN, SD, NB, IA, KS, MO	Des Moines	Kansas City KS, MO	Lincoln / Omaha	Minn. / St. Paul	St. Louis / E. St. Louis	West South Central TX, OK, AR, LA	Austin / San Antonio	Dallas / Ft. Worth	Houston	New Orleans	Oklahoma City	Mountain: UT, MT, ID, NV, WY, CO, AZ, NM	Denver	Phoenix	Salt Lake City	Pacific: WA, OR, CA	Los Angeles	Portland	San Francisco / Oakland	Seattle / Tacoma
MANAGEMENT		(7)	(6)	(8)	(29)	(10)	(11)	(8)	(133)	(15)	(21)	(20)	(52)	(25)	(89)	(20)	(29)	(17)	(11)	(12)	(75)	(35)	(22)	(18)	(160)	(61)	(18)	(52)	(25)
Top Official	(01)	**	934	643	675	705	741	570	667	747	647	666	709	654	786	727	955	715	685	748	798	826	754	792	753	601	**	740	747
Data Base Systems	(02)	**	574	**	**	**	**	**	494	449	**	424	530	543	498	**	471	**	490	**	638	543	576	536	504	568	425	477	409
Data Processing	(03)	528	640	539	515	515	529	497	517	536	493	465	580	511	559	530	620	572	472	569	555	598	520	496	553	561	495	525	627
Ass't D.P.	(04)	430	537	**	461	**	516	397	530	468	**	**	536	**	590	455	**	500	**	**	550	560	**	403	484	417	**	421	585
Project/Team Leader																													
Leader	(05)	**	461	**	402	421	**	307	455	529	**	466	420	**	518	409	525	**	**	476	476	571	524	457	582	635	487	610	555
Systems Analysis and Programming																													
Manager/Supervisor	(06)	460	536	478	517	552	482	**	520	485	568	471	500	**	542	521	556	522	574	488	547	521	**	563	526	516	463	499	553
Lead	(07)	351	368	425	**	**	**	454	460	390	469	420	482	433	430	400	428	**	535	361	417	475	431	504	476	482	461	479	483
Senior	(08)	347	371	384	416	388	402	**	398	384	392	357	428	383	429	396	411	479	418	342	416	392	416	398	451	436	351	450	454
Junior	(09)	**	**	**	321	295	336	328	361	333	381	293	335	367	351	350	318	370	359	341	361	336	402	382	355	369	328	310	374
Systems Analysis																													
Manager/Supervisor	(10)	**	**	513	555	528	**	**	529	509	**	**	536	**	479	**	**	**	**	**	636	**	**	**	519	**	519	**	**
Lead	(11)	**	**	**	409	**	**	**	487	443	**	434	480	**	439	**	**	**	406	**	550	557	**	514	502	536	453	**	**
Senior	(12)	421	**	**	425	480	393	**	430	401	**	**	445	432	517	**	**	**	385	**	456	450	**	426	487	484	403	**	462
Junior	(13)	412	438	**	300	**	376	323	369	**	373	**	337	417	361	416	373	**	267	**	422	408	437	**	432	376	323	395	457
Systems Programming																													
Manager/Supervisor	(20)	**	**	444	555	584	525	**	537	513	530	514	**	**	586	492	526	**	**	**	594	558	634	548	564	**	460	**	621
Lead	(21)	373	507	**	481	495	**	446	459	403	481	413	443	**	579	**	**	528	**	**	518	479	549	**	545	542	**	565	542
Senior	(22)	327	**	359	390	421	360	309	403	365	431	**	414	**	449	426	432	365	**	405	462	471	468	442	477	420	307	440	471
Junior	(23)	**	**	306	351	298	**	**	382	348	390	**	**	**	373	296	389	357	**	**	313	**	306	328	332	345	**	341	305
Trainee	(24)	**	**	**	346	346	**	**	333	**	349	**	260	**	369	**	**	351	400	**	264	264	**	**	287	**	280	**	219
Applications Programming																													
Manager/Supervisor	(25)	405	**	**	385	**	**	**	521	442	**	438	492	456	462	436	**	438	**	500	498	**	515	**	616	470	456	660	695
Lead	(26)	**	**	**	373	378	386	**	458	402	488	375	457	**	387	342	439	**	**	370	473	440	439	392	463	468	301	551	412
Senior	(27)	336	**	245	363	363	364	307	370	335	421	369	370	329	350	325	389	371	287	324	389	399	387	341	416	441	287	436	379
Junior	(28)	267	**	230	266	273	276	230	314	263	358	298	305	240	300	288	318	298	237	287	315	305	335	300	359	353	256	373	310
Trainee	(29)	230	244	212	235	242	212	**	270	242	320	255	260	**	244	211	277	229	198	**	273	283	268	262	280	303	232	285	269
Data Communications																													
Manager	(30)	**	**	**	399	**	**	**	439	**	438	**	446	421	446	420	417	**	**	**	484	**	596	**	541	**	**	465	**
Operator	(31)	**	160	**	380	**	**	**	431	406	**	**	**	**	282	308	**	**	230	**	274	313	**	278	191	**	**	181	324
Computer Operations																													
Manager/Supervisor	(32)	357	413	377	337	338	348	321	378	439	405	372	367	297	377	370	430	322	395	331	422	425	418	421	421	420	359	421	446
Lead Operator	(33)	271	359	296	298	307	284	269	281	337	308	247	291	224	290	285	290	306	310	286	301	295	314	298	316	294	292	296	350
Senior Operator	(34)	218	333	250	236	248	231	212	242	230	273	236	241	212	267	257	265	241	284	255	266	264	262	281	287	285	260	276	312
Junior Operator	(35)	208	249	193	192	196	206	175	210	217	235	204	198	199	215	180	219	215	238	189	239	245	217	244	246	243	245	235	265
I/O Control Manager	(36)	205	334	**	198	210	196	181	255	330	290	206	254	258	270	261	280	334	279	219	240	218	264	287	296	276	275	309	332
Tape Librarian	(40)	**	298	**	215	216	211	**	211	192	235	**	216	242	219	196	214	207	241	184	222	183	262	267	238	236	181	240	273
Key Entry																													
Supervisor	(41)	322	348	**	238	231	205	279	258	283	277	246	260	230	261	255	266	273	254	253	271	302	244	268	290	285	268	301	298
Lead Operator	(42)	203	227	**	190	189	192	**	203	198	205	234	213	187	212	205	215	220	209	212	217	233	209	207	245	250	199	249	264
Senior Operator	(43)	183	219	212	168	166	173	166	189	196	180	195	194	175	197	191	209	204	182	195	199	202	192	186	219	212	195	228	241
Junior Operator	(44)	138	161	**	161	163	153	150	164	167	161	154	165	170	176	174	179	182	160	169	179	184	168	162	184	179	164	204	218

Figures in parentheses indicate number of firms reporting salary data **Indicates insufficient information available*

— (No. Firms)

Average Reported Weekly Salaries for All Infosystems Jobs by Geographic Area

BEST AVAI

WP Salary and Equipment Survey

Users Say What They Pay What They Use

by Frederick W. Miller
Senior Editor

Want a job as a word processing department manager? It might pay you up to $800 a week. Or have you asked if there is a future in word processing, looking from junior operator's job upward?

These and other questions can be answered by looking at the charts here, and the fully published report of the first Word Processing Salary and Equipment Survey conducted by INFOSYSTEMS. Because of the increasing interest in—and obvious use of—word and text processing over the past few years, INFOSYSTEMS felt it was time to find out more about how this function is handled, where it reports organizationally, and how much people are paid.

Because this is a "first" for INFOSYSTEMS, we have no benchmark of our own against which to measure survey results, nor plot trends. The widespread use of stand-alone CRT-based word processors, however, indicates a clear trend away from mag card and mag tape typewriters.

Of the more than 55 percent using word processing in-house, less than half have a centralized WP department. This indicates WP is a function that can be performed by one or two people among a group of users, quite unlike data processing.

It was learned that the range of established salaries among six job categories was from $166 per week for a junior word processing operator to $484 per week for a manager of word processing. Highest reported salaries for the latter group were paid by companies in the fields of transportation, $605 weekly; light machinery and metals manufacturing, $528 weekly; hospitals and health care, $500 weekly; and food, tobacco and drugs, $491 weekly.

Those industry segments that indicated the heaviest use of word processing equipment "in-house" included insurance; state, federal and local government agencies; public utilities; advertising, printing, and publishing firms; banking and finance firms; non-data processing service firms; educational institutions; and engineering and construction firms.

Asked about reporting relationships within their enterprise, most respondents (45.1 percent combined total) said the WP function reports to a director or manager of administrative services, or to president, owner or general manager of the firm. Only 7.6 percent said the function reports to a manager of data processing, but 9.7 percent do report to a director or manager of management information systems, or information services.

Equipment used in-house by firms showed the vast majority—53.9 percent—were using stand-alone CRT systems with floppy disk storage. But 35 percent of those responding said mag card typewriters are used, ranking that equipment second in usage. Respondents indicated they are using more than one type of equipment.

Budgets for word processing included more than 57 percent for personnel costs, just under 30 percent for equipment, and the balance for software, supplies, and outside WP services. Firms with larger budgets overall spent slightly more on personnel. But firms with total budgets under $10,000 annually spent 40 per-

Weekly Salaries for Word Processing Jobs: Nationwide

Job Description	Number Reported	Lowest Reported Actual Salary	75th Percentile Actual Salary	National Average Actual Salary	Median Actual Salary	Mean Actual Salary	75th Percentile Actual Salary	Highest Reported Actual Salary	Established Salary Range—Average Low	Established Salary Range—Average High
	NATIONAL STATISTICS									
Manager Of Word Processing	153	192	307	404	369	461	461	807	347	484
Word Processing Supervisor	210	169	241	296	276	267	325	800	253	362
WP Coordinator Or Ass't. Mgr./Supervisor	148	140	230	284	265	276	311	621	237	329
Word Processing Operator, Lead	469	126	207	232	230	230	259	365	193	265
Word Processing Operator, Senior	1326	117	182	211	202	193	230	461	186	252
Word Processing Operator, Junior	867	115	166	193	184	173	201	424	166	222
Proofreader	102	121	175	226	217	150	248	436	193	268

Word Processing Equipment Used

Equipment Type	Percent Using
Stand-Alone CRT/floppy disk	53.9
Mag Card Typewriter	35.3
Shared Logic, Multistation CRT	26.3
Electronic Memory Typewriter	25.1
with one-line display	8.5
with mag card	9.5
with floppy disk	12.0
In-House Minicomputer	15.4
Magnetic Tape Typewriter	11.6
In-House Mainframe Computer	11.4
Other	7.3

*Percentage is more than 100 because firms with more than one type of equipment checked all types in use.

ABLE COPY

Word Processing Usage by Industry

Type of Organization	Percent Using
Insurance	83.8
Government (state, fed., local)	79.8
Public Utilities	73.1
Advertising, Printing, Publishing	61.3
Banking & Finance	60.9
Services, not Data Processing	59.8
Education	59.7
Food, Tobacco, Drugs	59.1
Engineering & Construction	58.3
Hospitals, Health Care	50.0
Electrical Manufacturing	50.0
Misc. Manufacturing	48.2
Heavy Machinery, Metals Mfg.	48.1
Services, Data Processing	43.4
Light Machinery, Metals Mfg.	36.1
Transportation	35.3
Retail Sales & Distribution	32.3
Wholesale Sales & Distribution	30.0
Other Respondents	62.9

Other respondents included WP and DP consultants, business and management consultants, CPS firms, research & development organizations, trade associations, petroleum and chemical refining firms, MIS design and development and computer systems development, farm cooperative, planning, human services, fund raising, and accounting.

Reporting Relationship For WP Function

Reports To	Percent
Director/Manager of Administrative Services	29.9
President/Owner/General Manager	15.2
Director/Manager M.I.S./Information Services	9.7
Finance Officer	8.8
Director/Manager of Data Processing	7.6
Manager of Secretarial Services	6.2
Other	22.7

Other categories include business manager, principal, city manager, city clerk, operations manager/assistant vp/vp, office systems/services manager, engineering manager, marketing and sales management, personnel and human resources manager, publications manager, data base administrator, legal dept. head, and purchasing manager.

Percentage of WP Budget by Size of WP Budget

	Under $10 M	$10 M To $24.9 M	$25 M To $49 M	$50 M To $99 M	$100 M To $249 M	$250 M And Over	Total
Personnel	39.5	57.6	57.1	63.8	57.6	61.1	57.1
Equipment	35.8	30.6	29.8	26.1	28.6	25.5	29.2
Software	7.8	2.8	1.6	1.6	2.5	2.7	2.9
Supplies	11.1	6.4	9.9	7.0	9.0	8.2	8.3
Outside WP Services	4.7	1.9	.3	.2	.7	1.1	1.3
Other	1.1	0.7	1.1	1.3	1.7	1.4	1.2

Word Processing Usage By All Respondents

	Percent
In-House Word Processing	55.9
WP Service Bureau	.6
WP on Timesharing Service	1.1
WP at Other Locations	2.3
No WP Operation/Function	40.1

Summary of Weekly Salaries by Size of Word Processing Budget

Total Annual WP Budget	No. Of Firms Reporting	Manager of Word Processing	Word Processing Supervisor	WP Coordinator Or Asst. Mgr./Supvr.	WP Operator, Lead	WP Operator, Senior	WP Operator, Junior	Trainee
Under $10,000	28	386	**	184	215	182	167	148
$10,000 to $24,999	79	397	322	265	219	199	183	138
$25,000 to $49,999	68	405	284	246	211	197	169	188
$50,000 to $99,999	69	400	299	300	229	212	190	191
$100,000 to $249,999	69	382	278	282	237	199	176	217
$250,000 and over	57	449	306	299	240	219	204	240

cent on personnel, 35 percent on equipment, 11 percent on supplies, and nearly eight percent on software.

Many word processing units are used for remote communications, especially among firms with larger budgets, i.e., larger firms. These usages include electronic mail and messages, document transmission and data transmission. Other firms indicated WP was used for input to a phototypesetter, as remote job entry to computers, interactively with timesharing services, and to receive data from computers.

Respondents provided us with many useful comments for our next WP survey and made other comments. Firms without a centralized WP function said that secretaries and other users handle word processing as one of their many job functions. And others said WP operators use the equipment to "run data processing jobs."

"I feel that it will be a prerequisite of any future office," one commented. "It is a necessary fact of life that the office must become more productive." □

Full Survey Results

Summary results of the first INFOSYSTEMS word processing salary and equipment survey are presented in this article and charts. Complete, spiral-bound results are available for $75. Check or company purchase order must accompany all orders. Mail to Word Processing Salary Survey Dept., INFOSYSTEMS, Hitchcock Bldg., Wheaton, IL 60187.